Chapter Eight: Conclusion

Contents

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DO&G is required by AS 38.05.133, and AS 38.05.035(e) and (g), to determine whether an exploration license serves the state's best interests. As the director of DO&G, my responsibility is to make that determination for the Copper River Basin Exploration License. In making this decision, I balanced the reasonably foreseeable positive and negative effects to determine whether the potential benefits exceed the potential negative effects and whether issuing the Copper River Exploration License is in the best interests of the state.

In this final finding analysis, DO&G considered the reasonably foreseeable potential effects, both negative and positive, that this license could have on fish, wildlife, and human users of these resources, on the local economy and well-being, and on state revenue. DO&G analyzed the available socioeconomic, and environmental data submitted by ADF&G and other government agencies. The division also considered the cumulative effects of development in the area.

A. Reasonably Foreseeable Effects of Exploration Licensing and their Mitigation

The discussion throughout this finding, and the record reflect the analysis of the issues. Below is a summary of this analysis.

1. Fiscal Effects

The Copper River basin Exploration Licensing Program is the first of its kind in Alaska, thus there is no history of revenue generation. Licensing has the potential to generate income for the state and the Matanuska-Susitna Borough, the latter of which through oil and gas property taxes. License fees, royalties, oil and gas property taxes, and production taxes would be deposited into the General and Permanent Funds. These revenues may be passed on to communities throughout the state via state revenue sharing, and other programs.

Copper River Basin communities receive financial assistance from state revenue sharing and other programs that support funding of education, health, public safety and transportation system improvements. Residents may also benefit financially by providing services and goods to the exploration licensee or its operators. Ahtna, Inc. owns lands adjacent to state acreage. If the licensing program results in exploration and development of state lands, this could result in exploration and development of Ahtna lands. Ahtna, Inc. and its shareholders could benefit from royalties, easements, provision of support services, employment, and other development opportunities.

2. Effects on Municipalities and Communities

Exploration and development in the study area could offer employment opportunities for local residents. Ahtna, Inc. generates employment opportunities to its shareholders through its 13 industrial support service subsidiaries. Mitigation measure 10 encourages the hiring of local residents for work performed on a license area. As with employment, changes in population and income in the study area would depend on the amount and location of exploration activity, and on the size of an oil or gas discovery. If exploration leads to a commercially significant gas discovery, residents could benefit from lower electric prices. Direct use of oil or

gas by residents is unlikely, due to low population densities. Exploration activity in the study area may lead to the construction of new roads and electric lines connected to existing infrastructure.

Access to subsurface minerals that are beneath privately held lands could cause land use conflicts in absence of established easements. Communities adjacent to exploration activities may experience increased use of transportation systems, like air charter services, airstrips, ATV trails, and roads. Exploration could cause noise and disturbance in remote areas traditionally used by local residents for recreation, hunting, and fishing.

Mitigation measures protect existing uses of the area and reduce adverse impacts to communities. Workers must be educated about the land and its people. The licensee, including any contractors and subcontractors, must train employees about the environmental, social, and cultural values of the people of this area. Employees must be trained in how to avoid damaging biological and archaeological resources, and in an understanding of community values, customs, and lifestyles of local residents. Plans of operation must describe the licensee's efforts to communicate with local communities, and interested local community groups in the development of such plans. Under mitigation measure 12a, public access to, or use of, the licensed area may not be restricted except within 1,500 feet or less of drill sites, buildings, and other related structures. Areas of restricted access must be identified in the plan of operations. Under mitigation measure 12b, no license facilities or operations may be located so as to block public access to or along navigable and public waters. Finally, under mitigation measure 13, license related activity will be restricted if the ADNR commissioner determines it is necessary to prevent unreasonable conflicts with local subsistence harvests. In order to avoid such conflicts, restrictions may include alternative site selection, directional drilling, and seasonal drilling restrictions.

B. Cumulative Effects and their Mitigation

1. Effects on Fish and Wildlife Habitats, Populations, and Uses

Fish: In absence of mitigation measures and state law, potential impacts in the exploration phase could include degradation of streambanks and overwintering areas due to erosion and sedimentation. Potential impacts in future phases could include habitat loss due to gravel displacement and facilities siting; interference with migration and movement from structures and impoundments; fish mortality due to industrial water use, oil spills, unregulated discharge, and improper use of explosives. Long-term impacts may include habitat improvement due to restoration and rehabilitation of impacted sites.

Title 16 of Alaska Statutes regulates all activities that may affect anadromous fish streams or that may result in blockage of fish passage. Mitigation measures specify that alteration of river banks and use of in-stream equipment is prohibited. Bridges or non-bottom-founded structures will be required for crossing fish spawning and important rearing habitats. Discharge of drilling muds and cuttings into lakes, streams, rivers, and high value wetlands is prohibited. Disposal of produced waters will be by subsurface disposal techniques. Unless authorized by a state permit, disposal of wastewater into freshwater bodies is prohibited. Gravel mining within an active floodplain is prohibited. Removal of water from fishbearing rivers, streams, and natural lakes shall be subject to prior written approval by DMLW and ADF&G. Water intake pipes must be designed to prevent harm to fish. Use of explosives is prohibited in open water areas of fishbearing streams and lakes.

Birds: Potential impacts could include habitat loss, barriers to movement, disturbance during nesting and brooding, and oil spills. In order to minimize the possibility of these impacts, the following mitigation

measures will apply. The siting of new facilities in key wetlands and sensitive habitat areas may be restricted. Surface entry will be prohibited within one-quarter mile of trumpeter swan nesting sites during summer. The siting of permanent facilities within one-quarter mile of known nesting sites is prohibited. Permanent facilities may be prohibited within one-quarter mile and will be prohibited within 500 feet of bald eagle nests, active or inactive. Aircraft are advised to avoid identified trumpeter swan fall staging areas.

Caribou and Moose: Potential impacts could include loss of winter moose forage in riparian habitats, disturbance and obstruction of caribou migration from roads and pipelines, and secondary effects from increased human presence in remote areas. Permanent roads may not be used for exploration and activities must be supported by air service or an existing road system. Wherever possible, onshore pipelines must use existing transportation corridors and be buried where soil and geophysical conditions permit. In areas where pipelines must be placed above ground, pipelines must be sited, designed, and constructed to allow free movement of moose and caribou. Seasonal restrictions may be imposed on activities located in important moose calving and caribou wintering areas.

Brown and black bears: Exploration and development activities could result in direct habitat loss from construction of roads and oil-related facilities, and subsequent fragmentation of habitat. Denning bears could be disturbed resulting in cub abandonment and mortality. Avoidance of important salmon streams when fish are present would minimize the displacement of bears from streams. Mitigation measures specify that facilities may not be sited within 500 feet of anadromous streams or within one-half mile of major rivers. Permanent roads will not be approved for exploration activities. Exploration activities must be supported by air service, an existing road system or ice roads. For projects in close proximity to areas frequented by bears, licensees are encouraged to prepare and implement bear interaction plans to minimize conflicts between bears and humans. Prior to commencement of any activities, bear den location information must be obtained by ADF&G and occupied dens avoided by one-half mile.

Other mammals: Other animals in the study area include wolf, lynx, wolverine, red fox, ermine, mink, river otter, martin, beaver, snowshoe hare, and muskrat. Attraction of animals to garbage and other waste can result in adverse impacts to individual animals. Proper disposal methods would minimize attraction of foxes and other small mammals. Some displacement of burrowing or denning is possible, but due to the scale of foreseeable effects, no population level impacts are likely. New solid waste disposal sites will not be approved or located on state property during the exploratory phase.

Oil Spills: Accidental discharge of oil or other industrial materials could affect any of the species listed above. A summer spill could result in mortality of local animals and birds. In order to mitigate the possibility of impacts from oil spills, all facilities are required to have oil spill contingency plans (c-Plans). In addition to addressing the prevention, detection, and cleanup of releases of oil, c-Plans for oil and gas extraction operations should include, but not be limited to, methods for detecting, responding to, and controlling blowouts; the location and identification of oil spill cleanup equipment; the location and availability of suitable alternative drilling equipment; and a plan of operations to mobilize and drill a relief well. Impermeable lining and diking, or double-walled tanks, will be required for oil storage facilities. Buffer zones of at least 500 feet will be required to separate oil storage facilities from freshwater supplies, streams, lakes, and key wetlands. Pipelines must be located upslope of roadways and construction pads and must be designed to facilitate the containment and cleanup of spilled hydrocarbons.

2. Effects on Subsistence

Effects on subsistence activities in the study area could include increased access to limited resources by competing users, land use limitations and restrictions on access to subsistence, and the immediate effects of

oil spills. Potential benefits from oil and gas activities include a potential increase in wage earning opportunities to supplement subsistence activities. Workers must be educated about the land and its people. The licensee, including any contractors and subcontractors, must train employees about the environmental, social, and cultural values of the people of this area. Employees must understand how to avoid damaging biological and archaeological resources. They should have an increased sensitivity and understanding of community values, customs, and lifestyles of local residents. Public access to, or use of, the licensed area may not be restricted except within 1,500 feet or less of drill sites, buildings, and other related structures. No license facilities or operations may be located so as to block public access to or along navigable and public waters as defined by state law. During review of plans of operation or development, DO&G will work with other agencies and the public to assure that potential conflicts are identified and avoided. License related activity will be restricted if the ADNR commissioner determines it is necessary to prevent unreasonable conflicts with local subsistence harvests. Plans of operation submitted for review and approval must describe the licensee's efforts to communicate with local communities, and interested local community groups, if any, in the development of such plans. Additional, site-specific and project-specific mitigation measures may be imposed as necessary to protect subsistence access.

3. Effects on Cultural and Historic Resources

There are more than 300 known historic and archaeological sites within the study area and the potential for the discovery of additional sites is high. To prevent damage and insure preservation, an inventory of prehistoric, historic, and archeological sites must be conducted prior to the construction or placement of any structure, road, or facility. The inventory must include consideration of literature provided by Ahtna, Inc., local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. In the event any site, structure, or object of prehistoric, historic, or archaeological significance is discovered during license operations, the licensee must immediately report such findings to the Director. These measures will insure these resources are protected and preserved. Additionally, state laws prohibit the removal of historic and cultural resources. Violators are subject to criminal (misdemeanor) penalties and civil penalties, including fines up to $100,000.

C. Specific Issues Related To Oil And Gas Exploration, Development, Production, And Transportation

1. Geophysical Hazards

The primary geophysical hazards within the Copper River basin study area include earthquakes, faulting, volcanoes, permafrost and frozen-ground phenomena, and seasonal flooding and sediment hazards. These geophysical hazards could impose constraints to exploration, production, and transportation activities and should be considered prior to any siting, design, or construction of facilities. Structures in the study area must be built to meet or exceed the Uniform Building Code requirements for zone 4, areas of high earthquake probability. Pre-development planning should include surveys of spring break-up activity, as well as flood-frequency analyses. Structural failure can be avoided by proper facility setbacks from rivers and main

tributaries. Containment dikes and berms can be installed to reduce flood damage. Site-specific geotechnical studies should be conducted prior to any development activities to assess the local permafrost conditions. Permafrost problems can be mitigated through proper siting, design, and construction considerations. Pipelines can be trenched, backfilled, insulated (if buried), or elevated to prevent undesirable thawing of permafrost.

2. Likely Methods of Transportation

The Trans-Alaska Pipeline System (TAPS) crosses the study area, generally following the Richardson Highway. The most likely method of transportation would involve building feeder lines to TAPS and transporting oil to Valdez for shipment. If sufficient natural gas reserves are discovered and it is economically feasible, the gas could be made available to local communities through new pipelines. Gas could also be re-injected into the ground, as is done on the North Slope, or mixed with oil in the TAPS. Elevated pipelines are typically used in Alaska to prevent heat transfer from the hot oil in the pipeline to frozen soils, since heat would degrade the permafrost. Elevated pipelines are easy to maintain and visually inspect for leaks, but can obstruct caribou migration. However, mitigation measures require that pipelines be designed and constructed to allow free movement of caribou and moose. Under mitigation measures, wherever possible, onshore pipelines must utilize existing transportation corridors and be buried where soil and geophysical conditions permit. Buried pipelines are feasible as long as the integrity of the frozen soils is maintained, but buried pipelines are more difficult to monitor and maintain and may result in some habitat loss from gravel fill. On the other hand, buried pipelines are sometimes not feasible from an engineering standpoint because of the thermal stability of fill and underlying substrate.

D. Exploration License Terms

The Copper River Exploration License Area consists of 398,445 acres, located within the following townships: T2N R1W - 5W; T3N R1W - 7W; T4N R1W - 8W; and T5N R1W - 8W. The term of the license will be for five (5) years. Once the work commitment obligation set out in the exploration license has been met, all or part of the license area may be converted into oil and gas leases. Upon conversion to a lease, an annual rental rate of $3 per acre will be assessed. Royalty on any production resulting from this exploration license will be set at 12.5 percent.

E. Conclusion

No activity may occur without further review and proper authorization from the appropriate permitting agencies. When specific activities are proposed, more detailed information such as site, type, and size of facilities will be known, in addition to the historical project data. Except for some very limited types of proprietary information, permit applications are public information and most permitting processes include public comment periods. DO&G will give public notice for any plans of operation for development. Additional terms may be imposed in any subsequent permits when applied for if additional issues are identified at that time.

Developing the state's petroleum resources is vital to the state economy and the well-being of its citizens. With the Copper River Exploration License mitigation measures presented in this final finding imposed on licenses and plans of operation, and additional project-specific and site-specific mitigation measures imposed in response to specific proposals, the petroleum resources of the study area can most likely

be explored and developed without significantly affecting fish and wildlife populations or traditional human uses. The state has sufficient authority from general constitutional, statutory and regulatory empowerments, the terms of the license contract, and plan of operations permit terms to ensure that licensees conduct their activities safely and in a manner that protects the integrity of the environment and maintains opportunities for subsistence uses.

On the basis of the facts and issues presented at this time, the foregoing findings, applicable laws and regulations, and the documents reviewed during preparations of this final finding, I conclude that the potential benefits of the exploration license, as conditioned, outweigh the possible adverse impacts, and that the Copper River Exploration License will best serve the interests of the state of Alaska.

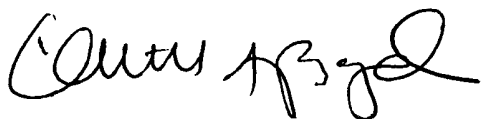
This Best Interest Finding is a final administrative decision of the department. A person who is aggrieved by this finding may request the commissioner to reconsider the decision under AS 35.05.035(i) and (j). To be eligible an appellant must have meaningfully participated in the process to develop the finding by either submitting written comments during the prescribed comment period, or by presenting oral testimony at a public hearing regarding the license. A request for reconsideration must be received by John T. Shively, Commissioner, Department of Natural Resources, 550 W 7th Avenue, Suite 1400, Anchorage, Alaska 99501, or received by fax at 1-907-269-8918 by 5:00 p.m. (local time), August 14, 2000. If the commissioner fails to act on the request for reconsideration by August 24, 2000 the request is considered denied.

A denial of a request for reconsideration is the final administrative decision for purposes of appeal to Superior Court. A person may appeal the Final Best Interest Finding to Superior Court only if the person was eligible to request, and did request, an administrative reconsideration of the finding by the commissioner. An appellant must initiate an appeal to the Superior Court within 30 days from the date of denial of that reconsideration or from the date of distribution of the denial decision, in accordance with the rules of court and to the extent permitted by applicable law.

F. Request for Sealed Bids and Signatures

Since there is more than one prospective licensee for this area, the department intends to request competitive sealed bids from the companies who have already submitted a proposal, in accordance with AS 38.05.133(h). Bids from any other company or individual will not be accepted.

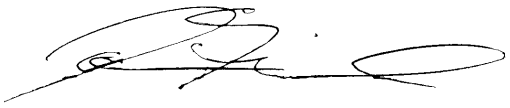
A prospective licensee who intends to participate in the bidding must submit a sealed bid to the director no later than 4:30 p.m. ADT, August 24, 2000. Submission of a bid satisfies the notification of intent to participate required by AS 38.05.133(h). A prospective licensee's sealed bid submittal constitutes acceptance of issuance of the exploration license, as limited or conditioned by the terms contained in the finding, by the exploration license to be issued and by the form of lease to be used (see Appendices C and D). The commissioner will award the license to the prospective licensee who submits the highest bid in terms of the minimum work commitment dollar amount.



Kenneth A. Boyd
Director

July 25, 2000

I concur with the decision of the director that the Copper River Exploration License is in the best interests of the state.



John T. Shively
Commissioner

July 25, 2000